

## INTERNATIONAL SEARCH REPORT

Inter application No  
PCT/IB 03/01299

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H01L23/31 H01L21/48

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H01L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 306 685 B1 (LIU P C ET AL) 23 October 2001 (2001-10-23)	1
Y	the whole document	10,11
X	US 6 351 025 B1 (OHSAWA KENJI ET AL) 26 February 2002 (2002-02-26)	4,5,9
Y	column 6, line 58 - column 8, line 43; figures 1A,1B	10,11
A	US 2002 027010 A1 (GLENN THOMAS P) 7 March 2002 (2002-03-07) the whole document	1,9
A	PATENT ABSTRACTS OF JAPAN vol. 1999, no. 11, 30 September 1999 (1999-09-30) & JP 11 163024 A (SUMITOMO METAL MINING CO LTD), 18 June 1999 (1999-06-18) the whole document	1,9
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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\* & \* document member of the same patent family

Date of the actual completion of the international search

9 September 2003

Date of mailing of the international search report

16/09/2003

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>-&amp; JP 11 163024 A (SUMITOMO METAL MINING CO LTD) 18 June 1999 (1999-06-18)</p> <p>US 2002 038721 A1 (KANEDA YUTAKA) 4 April 2002 (2002-04-04) the whole document</p>	1,9

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Inter application No  
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6306685	B1	23-10-2001	NONE
US 6351025	B1	26-02-2002	JP 3003624 B2 31-01-2000 JP 10335569 A 18-12-1998 SG 68051 A1 19-10-1999 TW 379429 B 11-01-2000 US 6140153 A 31-10-2000 US 6369441 B1 09-04-2002 US 6403402 B1 11-06-2002
US 2002027010	A1	07-03-2002	US 2002100165 A1 01-08-2002 US 6247229 B1 19-06-2001
JP 11163024	A	18-06-1999	NONE
US 2002038721	A1	04-04-2002	JP 2002111185 A 12-04-2002 CN 1346147 A 24-04-2002 TW 497188 B 01-08-2002